

# MIGUEL JIMENEZ

## EDUCATION

2016   Present	<b>Ph.D. in Computer Science</b> University of Victoria • GPA: 3.85 / 4 <i>Ongoing</i> SE@run.time in the context of DevOps	Victoria, Canada 
2014   2016	<b>M.Sc. in Software Engineering</b> Universidad Icesi • GPA: 3.87 / 4 <i>Thesis</i> <a href="#">A Framework for Generating and Deploying Dynamic Performance Monitors for Self-Adaptive Systems</a>	Cali, Colombia 
2009   2014	<b>B.E. in Systems Engineering</b> Universidad Icesi • GPA: 3.21 / 4 <i>Honors</i> Engineering Dean's list in semesters VI, VII, VIII, & IX <i>Thesis</i> <a href="#">PaSCAni: A language for V&amp;V of Functional Requirements at Runtime</a> (in Spanish)	Cali, Colombia 
<b>Courses</b> Entrepreneurship Laboratory with Mobile Technologies —2012 <b>Massachusetts Institute of Technology + Universidad Icesi</b> <a href="#">Introduction to OpenStack (online) —2018</a> <b>EDX</b>		

## EXPERIENCE

2016   present	<b>Ph.D. Student/Researcher - IBM Lead Student</b> University of Victoria + IBM Advanced Studies • Conduct research and collaborate with other teams internal and external to the university to develop deployment tools for emerging technologies, such as Infrastructure as Code	Victoria, Canada 
2014   2016	<b>Graduate Research Assistant</b> Universidad Icesi • Identified challenges in dynamic performance monitoring of Self-Adaptive Systems and proposed technical solutions to advance the state of the art • Designed and implemented distributed applications, following the SOA philosophy, to realize dynamic performance monitoring at runtime • Managed the computing resources of the DRISO research group's computing grid (~15 physical machines)	Cali, Colombia 
2012   2015	<b>Freelance Developer</b> • Designed and implemented an online auction application for the Colombian headquarters of LaFrancol laboratories, a pharmaceutical company • Designed and implemented a management web application to support the Purchasing Department at Carvajal Espacios, a Colombian company leader in trends in design and office furniture • Designed and implemented corporate websites and supporting sites (e.g., tutorials & tickets) for small Colombian companies, including SQL Soluciones Infomáticas, Ecohotel el Castillo, Juan Felipe Velez Accountant and Z-Graphics	Cali, Colombia 

## SELECTED PROJECTS

2018	<b>TORNADO</b> University of Victoria + IBM • Created Tornado, a two-way continuous integration framework for DevOps that enables bidirectional traceability of changes and transformation between a running system and its deployment specifications • Implemented a proof of concept of Tornado that updates version-controlled Terraform specifications according to changes to an OpenStack deployment • Source code is available online at <a href="#">github.com/rigiresearch/jachinte-DevOps2018-evaluation</a> <i>Technologies</i> Java, Maven, Eclipse Modeling Framework, OpenStack, Terraform, Docker, CircleCI	 
2015   2017	<b>AMELIA</b> Universidad Icesi + Carvajal T&S • Created Amelia, a compact domain-specific language tailored for specifying and executing deployment workflows for distributed software systems • We used Amelia's composable and extendable subsystems to specify and deploy 324 architectural configurations to re-design the reference architecture of a software family at Carvajal T&S, improving its throughput by a factor of five • Source code, documentation and evaluation are available online at <a href="#">github.com/unicesi/amelia</a> and <a href="#">github.com/unicesi/amelia-evaluation</a> <i>Technologies</i> Java, Xtend, Xtext, Maven, Rultor	 
2015	<b>Stacky</b> • Created Stacky, a jQuery plugin that makes it easy to create user interfaces with panels that open horizontally • 245+ stars and 20+ forks on Github • Source code and documentation are available online at <a href="#">github.com/jachinte/jquery.stacky</a> <i>Technologies</i> JavaScript, jQuery, Sass, Grunt, Bower, npm	

## CONTACT INFO

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## SOCIAL LINKS

 [github.com/jachinte](#)  
 [twitter.com/jachinte](#)  
 [stackoverflow.com](#)

## SKILLS

### Computer Languages

Java, Xtend  
JavaScript  
C  
Python  
C#  
Oz  
Shell Script  
SQL  
HTML5  
CSS3 & Pre-Processors

### Technical Skills

Architecture Design  
Build Automation  
Containerized Applications  
Continuous Delivery  
Data Mining (basic)  
Infrastructure Provision  
Language Engineering  
Microservices Architecture  
Object-Oriented Programming  
Performance Monitoring  
Service Component Architecture

### Languages

Spanish (native)  
English (fluent)  
French (basic)

## PUBLICATIONS

### Journal Articles

- H. Arboleda, A. Paz, **M. Jiménez**, and G. Tamura, "Development and Instrumentation of a Framework for the Generation and Management of Self-Adaptive Enterprise Applications" Ing. Univ., vol. 20, no. 2, pp. 303-333, 2016.

### Refereed Conference Proceedings

- Rivera, L. F., Villegas, N. M., Tamura G., **Jiménez M.**, and Müller H.. 2018. UML-Driven Automated Software Deployment. In Proceedings of the 28th Annual International Conference on Computer Science and Software Engineering. IBM Corp., 2018 (CASCON'18). In press; 12 pages.
- **Jiménez, M.**, Villegas, N. M., Tamura, G., and Müller, H. A.. 2017. **Deployment Specification Challenges in the Context of Large Scale Systems**. In Proceedings of 27th Annual International Conference on Computer Science and Software Engineering, Markham, Ontario, Canada, November 2017 (CASCON'17), 7 pages.
- Angara, P., **Jiménez, P.**, Agarwal, K., Jain, H., Jain, R., Stege, U., Ganti, S., Müller, H. A.. 2017. **Foodie Fooderson A Conversational Agent for the Smart Kitchen**. In Proceedings of 27th Annual International Conference on Computer Science and Software Engineering, Markham, Ontario, Canada, November 2017 (CASCON'17), 7 pages.
- Arboleda, H., Paz, A., **Jiménez, M.**, Tamura, G., "A Framework for the Generation and Management of Self-Adaptive Enterprise Applications" Computing Colombian Conference (10CCC), 2015 10th, Bogota, 2015, pp. 55-62.

### Refereed Symposia and Workshops

- **Jiménez, M.**, Villegas, N. M., Tamura, G., and Müller H.. **DevOps Round-trip Engineering: Traceability from Dev to Ops and Back Again**. In First international workshop on software engineering aspects of continuous development and new paradigms of software production and deployment, Toulouse, France, 2018. Springer International Publishing. In press; 15 pages.
- **Jiménez, M.**, Rivera, L. F., Villegas, N. M., Tamura, G., Müller H., and Gallego P. **DevOps' Shift-Left in Practice: An Industrial Case of Application**. In First international workshop on software engineering aspects of continuous development and new paradigms of software production and deployment, Toulouse, France, 2018. Springer International Publishing. In press; 15 pages.
- Bruel, J.M. and **Jiménez, M.** DevOps'18 Education Panel: Teaching Feedback and Challenges. In First international workshop on software engineering aspects of continuous development and new paradigms of software production and deployment, Toulouse, France, 2018. Springer International Publishing. In press; 5 pages.
- **Jiménez, M.**, Villota Gomez, A., Villegas, N. M., Tamura, G., and Duchien, L. (2014, September). **A Framework for Automated and Composable Testing of Component-based Services**. In Maintenance and Evolution of Service-Oriented and Cloud-Based Systems (MESOCA), 2014 IEEE 8th International Symposium on (pp. 1-10). IEEE.

## SELECTED POSTERS AND SHORT TALKS

### DevOps Round-trip Engineering: Continuous Integration from Dev to Ops and Back

-  URMD CRA Grad Cohort Workshop, March 2018. San Diego, United States (Poster)
-  IBM CASTLE 2018, May 2018. Markham, Canada (Poster)

### Deployment Specification Challenges in the Context of Large-Scale Systems

-  CASCON, November 2017. Markham, Canada [[Presentation](#), [Poster](#), [Pecha kutch](#)]
-  URMD CRA Grad Cohort Workshop, March 2018. San Diego, United States (Poster)

### Generating and Deploying Dynamic Performance Monitors for Self-Adaptive Systems

-  CSER, November 2016. Markham, Canada [[Presentation](#), [Pecha kutch](#)]
-  Summer School on Informatics and Software Engineering, July 2015. Cali, Colombia [[Poster](#)]

## MENTORING EXPERIENCE

2015

### Knowledge Management and Dissemination: Alternative Soccer Culture

- Role: Technical Advisor
- Undergraduate degree project, Interactive Media Design Program — Universidad Icesi
- Student: Juan David Flórez Bautista

2014

### Folii: Natural and Interactive Encyclopedia Mediated by Citizen Science

- Role: Tutor
- Undergraduate degree project, Interactive Media Design Program — Universidad Icesi
- Students: Juan Pablo Pérez, Mauricio Alberto Toro

## TEACHING ASSISTANT EXPERIENCE

### University of Victoria

Victoria, Canada 

- Assistance Centre in Computer Science - Spring 2018
- Fundaments of Programming with Engineering Applications - Falls 2016, 2017
- Data Structures I - Fall 2016

### Universidad Icesi

Cali, Colombia 

- Web programming (Computer Tech Club) - Springs 2012, 2013
- Data Structures and Algorithms - Spring 2011

## HONORS & AWARDS

2018

- UVic Graduate Award

2017

- Howard E. Petch Research Scholarship
- UVic Graduate Award
- [Cleanest code at HackUVic](#)

2016

- University of Victoria Fellowship Doctoral
- IBM CAS Student Grant

2014

- Universidad Icesi Fellowship Master
- Student Loan Forgiveness —*Colombian Institute of Educational Credit and Technical Studies Abroad*

2009

- Universidad Icesi Icesos Scholarship
- Engineering Dean's list without merit scholarship in semesters VI, VII, VIII, & IX